CLAIMS

What is claimed is:

1. A method of operating one or more Web pages by email, the method comprising the steps of:

    • sending a first Web page in a first email message to a first email address via a computer network, the first Web page including one or more of links or forms that provide for further interaction, the Web page in a first format consistent with one or more properties of a first email environment such that the first Web page is directly operable in an instance of an email browser of the first email environment; and

    • retrieving a second email message sent to a second email address via the computer network, the second email message including a URL request or form data, and generated as a result of a user directly operating the first Web page in an instance of the email browser of the first email environment.

2. A method as described in claim 1, further including:

    • transcoding an original Web page in a Web-browser format to the first format to generate the first Web page.

3. A method as described in claim 1, wherein the sending occurs when a calendar event occurs.

4. A method as described in claim 1, wherein the sending includes sending the first Web page to one or more other email addresses.

5. A method as described in claim 4, wherein the first and other email addresses to which the first Web page is sent are those email addresses that meet one or more targeting criteria.

6. A method as described in claim 1, wherein the sending includes sending a personalized version of the first Web page to one or more other email addresses.

7.   A method as described in claim 6, wherein the first and other email addresses to which the first Web page is sent are those email addresses that meet one or more targeting criteria.

8.   A method as described in claim 1, the method further comprising the steps of:

- interpreting the URL request or form data of the retrieved second email message;

- retrieving a second Web page from a Web server connected to the computer network in accordance with the interpreted URL request or form data, the second Web page in a Web browser format;

- transcoding the retrieved second Web page from the Web browser format to a third format consistent with one or more properties of a second email environment, such that the transcoded second Web page is directly operable in an instance of the email browser of the second email environment; and

- transmitting the transcoded second Web page to a third email address as a third email message.

9.   A method as described in claim 8, further including:

- transcoding an original Web page in a Web-browser format to the first format to generate the first Web page, the transcoding the original Web page including introducing none or more form tags and variables,

wherein the interpreting includes interpreting any specialized form tags and variables introduced by any transcoding of the original Web page.

10.   A method as described in claim 8 wherein the interpreting includes email-browser specific translating.

11.   A method as described in claim 8 wherein the interpreting includes determining the type of email-browser.

12.   A method as described in claim 8, wherein the second Web page includes one or more hyperlinks or a second set of form data,

wherein the transcoding step includes, in the case that the retrieved Web page includes one or more hyperlinks, the step of:

converting one or more hyperlinks in the retrieved second Web page to one or more corresponding links in the transcoded second Web page, such that each corresponding link is directly operable in the instance of the email browser of the second email environment, and such that operating a corresponding link in the email browser instance causes a further email message containing the URL request of the corresponding hyperlink to be sent to a fifth email address via the computer network; and

wherein the transcoding step includes, in the case that the retrieved Web page includes a second set of form data, the step of:

converting one or more form controls in the second set of form data such that each converted form control is directly operable in the instance of the email browser of the second email environment, and such that operating a converted form control in the email browser instance causes a further email message to be sent to a fifth email address via the computer network.

13.   A method according to claim 12, wherein the transcoding step further includes, in the case that the retrieved second Web page includes a relative URL, converting the relative URL to an absolute URL.

14.   A method according to claim 12, wherein, in the case that the retrieved second Web page includes one or more hyperlinks, the corresponding link is a "mailto:" URL.

15.   A method according to claim 12, wherein, in the case that the retrieved second Web page includes one or more hyperlinks, at least one hyperlink in the retrieved second Web page is left intact such that a user clicking on the intact hyperlink in an instance of an email browser of the second email environment would cause a Web browser to launch and the URL of the clicked hyperlink to be retrieved via the computer network.

16.   A method according to claim 12, wherein, in the case that the retrieved second Web page includes one or more form controls that have associated URLs, converting the form controls to mailto references, such that clicking on the form controls in an instance of an email browser of the second email environment would cause a further email message containing the form with any filled-in data to be sent to a fourth email address via the computer network.

17.   A method according to claim 12, wherein the transcoding step further includes, in the case that the retrieved second Web page includes one or more image references, retrieving the images of the image references and transmitting the retrieved images with the transcoded second Web page to the third email address.

18.   A method according to claim 12, wherein the transcoding step further includes, in the case that the retrieved second Web page includes one or more image references, retrieving the images is from a cache containing the images in the case that the images are stored in the cache.

19.   A method according to claim 17, wherein the retrieved images are transmitted as attachments to the third email message.

20.   A method according to claim 17, wherein the transcoding step further includes replacing the image references with local image references.

21.   A method as described in claim 8, wherein the retrieving of the second Web page occurs according to a priority.

22.   A method as described in claim 21, further comprising:

   •   inserting a request for the second Web page into a queue; and

   •   retrieving the request for the second Web page from the queue in priority order,

such that the retrieving of the second Web page is per the retrieved request.

23.   A method as described in claim 22, wherein the retrieving of the request for the second Web page from the queue includes marking the queue entry to prevent any other access to the same queue entry, the method further including marking the

queue entry to allow other accesses to the queue entry once retrieval of the second Web page is complete.

24. A method as described in claim 8, wherein the third format includes one or more properties in accordance with the URL request or form data.

25. A method as described in claim 8, wherein the transmitting of the transcoded second Web page is in accordance to the URL request to form data.

26. A method of operating a Web server in communication with a computer network, the Web server to provide one or more Web pages (these may be static or dynamic), the method comprising the steps of:

- retrieving a first email message sent to a first email address via the computer network, the email message containing a URL request or form data;

- interpreting the retrieved first email message URL request or form data;

- retrieving a first Web page from the Web server in accordance with the interpreted URL request or form data, the first Web page including one or more of links or forms and in a Web browser format;

- transcoding the retrieved first Web page from the Web browser format to a third format consistent with one or more properties of a first email environment, such that the transcoded first Web page is directly operable in an instance of an email browser of the first email environment; and

- transmitting the transcoded first Web page to a second email address.

27. A method as described in claim 26,

wherein the transcoding step includes, in the case that the retrieved Web page includes one or more hyperlinks, the step of:

converting one or more hyperlinks in the retrieved first Web page to one or more corresponding links in the transcoded first Web page, such that each corresponding link is directly operable in the instance of the email browser

of the first email environment, and such that operating a corresponding link in the email browser instance causes a further email message containing the URL request of the corresponding hyperlink to be sent to a third email address via the computer network; and

wherein the transcoding step includes, in the case that the retrieved Web page includes a second set of form data, the step of:

converting one or more form controls in the second set of form data such that each converted form control is directly operable in the instance of the email browser of the first email environment, and such that operating a converted form control in the email browser instance causes a further email message to be sent to a third email address via the computer network.

28.   A method according to claim 26, wherein the transcoding step further includes, in the case that the retrieved first Web page includes a relative URL, converting the relative URL to an absolute URL.

29.   A method according to claim 27, wherein, in the case that the retrieved first Web page includes one or more hyperlinks, the corresponding link is a "mailto" reference.

30.   A method according to claim 27, wherein, in the case that the retrieved first Web page includes one or more hyperlinks, at least one hyperlink in the retrieved first Web page is left intact such that a user clicking on the intact hyperlink in an instance of an email browser of the first email environment would cause a Web browser to launch and the URL of the clicked hyperlink to be retrieved via the computer network.

31.   A method according to claim 27, wherein, in the case that the retrieved Web page includes one or more form controls that have associated URLs, converting the form controls to mailto references, such that clicking on the form controls in an instance of an email browser of the first email environment would cause a further email message containing the form with any filled-in data to be sent to a third email address via the computer network.

32.   A method according to claim 26, wherein the transcoding step further includes, in the case that the retrieved first Web page includes one or more image references, retrieving the images of the image references and transmitting the retrieved images with the transcoded first Web page to the second email address.

33.   A method according to claim 26, wherein the transcoding step further includes, in the case that the retrieved first Web page includes one or more image references, retrieving the images is from a cache containing the images in the case that the images are stored in the cache.

34.   A method according to claim 32, wherein the retrieved images are transmitted as attachments to the second email message.

35.   A method according to claim 32, wherein the transcoding step further includes replacing the image references with local image references.

36.   A method as described in claim 26, wherein the retrieving of the first Web page occurs according to a priority.

37.   A method as described in claim 36, further comprising:

- inserting a request for the first Web page into a queue; and

- retrieving the request for the first Web page from the queue in priority order,

such that the retrieving of the first Web page is per the retrieved request.

38.   A method as described in claim 37, wherein the retrieving of the request for the first Web page from the queue includes marking the queue entry to prevent any other access to the same queue entry, the method further including marking the queue entry to allow other accesses to the queue entry once retrieval of the first Web page is complete.

39.   A method as described in claim 26, wherein the third format includes one or more properties in accordance with the URL request or form data.

40.   A method as described in claim 26, wherein the first email message is formed by transcoding an original Web page, wherein the transcoding the original Web page

includes introducing none or more form tags and metavariables, and wherein the interpreting includes interpreting any specialized form tags and variable (metavariables) introduced by any transcoding of the original Web page.

41.   A method as described in claim 26, wherein the interpreting includes email-browser specific translating.

42.   A method as described in claim 26, wherein the interpreting includes determining the type of email-browser.

43.   A carrier medium carrying one or more computer readable code segments for controlling a processing system to carry out a method of operating one or more Web pages by email, comprising:

- computer readable code to effect one or more processors of the processing system to send a first Web page in a first email message to a first email address via a computer network, the first Web page including one or more of links or forms that provide for further interaction, the Web page in a first format consistent with one or more properties of a first email environment such that the first Web page is directly operable in an email browser of the first email environment; and

- computer readable code to effect one or more processors of the processing system to retrieve a second email message sent to a second email address via the computer network, the second email message including a URL request or form data, and generated as a result of a user directly operating the first Web page in an instance of the email browser of the first email environment.

44.   A carrier medium as described in claim 43, further comprising:

- computer readable code to effect one or more processors of the processing system to transcode an original Web page in a Web-browser format to the first format to generate the first Web page.

45.   A carrier medium as described in claim 43, wherein the sending occurs when a calendar event occurs.

46.   A carrier medium as described in claim 43, wherein the code to effect sending includes code to effect sending the first Web page to one or more other email addresses.

47.   A carrier medium as described in claim 46, wherein the first and other email addresses to which the first Web page is sent are those email addresses that meet one or more targeting criteria.

48.   A carrier medium as described in claim 43, wherein the code to effect sending includes code to effect sending a personalized version of the first Web page to one or more other email addresses.

49.   A carrier medium as described in claim 48, wherein the first and other email addresses to which the first Web page is sent are those email addresses that meet one or more targeting criteria.

50.   A carrier medium as described in claim 43, further comprising:

- computer readable code to effect one or more processors of the processing system to interpret the URL request or form data of the retrieved second email message;

- computer readable code to effect one or more processors of the processing system to retrieve a second Web page from a Web server connected to the computer network in accordance with the interpreted URL request or form data, the second Web page in a Web browser format;

- computer readable code to effect one or more processors of the processing system to transcode the retrieved second Web page from the Web browser format to a third format consistent with one or more properties of a second email environment, such that the transcoded second Web page is directly operable in an instance of the email browser of the second email environment; and

- computer readable code to effect one or more processors of the processing system to transmit the transcoded second Web page to a third email address as a third email message.

51.   A carrier medium as described in claim 50, further including

·   computer readable code to effect one or more processors of the
       processing system to transcode an original Web page in a Web-browser
       format to the first format to generate the first Web page, the transcoding the
       original Web page including introducing none or more form tags and
       variables,

wherein the interpreting includes interpreting any specialized form tags and
variables introduced by any transcoding of the original Web page.

52.   A carrier medium as described in claim 50 wherein the interpreting includes
email-browser specific translating.

53.   A carrier medium as described in claim 50, wherein the second Web page
includes one or more hyperlinks or a second set of form data,

wherein the code to effect transcoding includes, in the case that the retrieved Web
page includes one or more hyperlinks:

              computer readable code to effect one or more processors of the processing
       system to convert one or more hyperlinks in the retrieved second Web page
       to one or more corresponding links in the transcoded second Web page, such
       that each corresponding link is directly operable in the instance of the email
       browser of the second email environment, and such that operating a
       corresponding link in the email browser instance causes a further email
       message containing the URL request of the corresponding hyperlink to be
       sent to a fourth email address via the computer network; and

wherein the code to effect transcoding step includes, in the case that the retrieved
Web page includes a second set of form data:

              computer readable code to effect one or more processors of the processing
       system to convert one or more form controls in the second set of form data
       such that each converted form control is directly operable in the instance of
       the email browser of the second email environment, and such that operating

a converted form control in the email browser instance causes a further email message to be sent to a fourth email address via the computer network.

54. A carrier medium according to claim 53, wherein the code to effect transcoding further includes, in the case that the retrieved second Web page includes a relative URL, computer readable code to effect one or more processors of the processing system to convert the relative URL to an absolute URL.

55. A carrier medium according to claim 53, wherein, in the case that the retrieved second Web page includes one or more hyperlinks, the corresponding link is a "mailto" reference.

56. A carrier medium according to claim 53, wherein, in the case that the retrieved second Web page includes one or more hyperlinks, at least one hyperlink in the retrieved second Web page is left intact such that a user clicking on the intact hyperlink in an instance of an email browser of the second email environment would cause a Web browser to launch and the URL of the clicked hyperlink to be retrieved via the computer network.

57. A carrier medium according to claim 53, wherein, in the case that the retrieved second Web page includes one or more form controls that have associated URLs, the code to effect converting includes computer readable code to effect one or more processors of the processing system to convert the form controls to mailto references, such that clicking on the form controls in an instance of an email browser of the second email environment would cause a further email message containing the form with any filled-in data to be sent to a fourth email address via the computer network.

58. A carrier medium according to claim 53, wherein the code to effect transcoding further includes, in the case that the retrieved second Web page includes one or more image references, computer readable code to effect one or more processors of the processing system to retrieve the images of the image references and transmitting the retrieved images with the transcoded second Web page to the third email address.

59. A carrier medium according to claim 53, wherein the code to effect transcoding further includes, in the case that the retrieved second Web page includes one or more

image references and that the images are stored in a cache, computer readable code to effect one or more processors of the processing system to retrieve the images from the cache.

60.   A carrier medium according to claim 58, wherein the retrieved images are transmitted as attachments to the third email message.

61.   A carrier medium according to claim 58, wherein the code to effect transcoding step further includes computer readable code to effect one or more processors of the processing system to replace the image references with local image references.

62.   A carrier medium as described in claim 50, wherein the retrieving of the second Web page occurs according to a priority.

63.   A carrier medium as described in claim 50, wherein the third format includes one or more properties in accordance with the URL request or form data.

64.   A carrier medium as described in claim 50, wherein the transmitting of the transcoded second Web page is in accordance to the URL request to form data.

65.   A carrier medium carrying one or more computer readable code segments for controlling a processing system that includes one or more processors to carry out a method of operating a Web server in communication with a computer network, the Web server to provide one or more Web pages, comprising:

- computer readable code to effect one or more processors of the processing system to retrieve a first email message sent to a first email address via the computer network, the email message containing a URL request or form data;

- computer readable code to effect one or more processors of the processing system to interpret the retrieved first email message URL request or form data;

- computer readable code to effect one or more processors of the processing system to retrieve a first Web page from the Web server in

accordance with the interpreted URL request or form data, the first Web page including one or more of links or forms and in a Web browser format;

• computer readable code to effect one or more processors of the processing system to transcode the retrieved first Web page from the Web browser format to a third format consistent with one or more properties of a first email environment, such that the transcoded first Web page is directly operable in an instance of an email browser of the first email environment; and

• computer readable code to effect one or more processors of the processing system to transmit the transcoded first Web page to a second email address.

66. A carrier medium as described in claim 65,

wherein the code to effect transcoding includes, in the case that the retrieved Web page includes one or more hyperlinks:

computer readable code to effect one or more processors of the processing system to convert one or more hyperlinks in the retrieved first Web page to one or more corresponding links in the transcoded first Web page, such that each corresponding link is directly operable in the instance of the email browser of the first email environment, and such that operating a corresponding link in the email browser instance causes a further email message containing the URL request of the corresponding hyperlink to be sent to a third email address via the computer network; and

wherein the code to effect transcoding includes, in the case that the retrieved Web page includes a second set of form data:

computer readable code to effect one or more processors of the processing system to convert one or more form controls in the second set of form data such that each converted form control is directly operable in the instance of the email browser of the first email environment, and such that operating a

converted form control in the email browser instance causes a further email message to be sent to a third email address via the computer network.

67. A carrier medium according to claim 65, wherein the code to effect transcoding further includes, in the case that the retrieved first Web page includes a relative URL, computer readable code to effect one or more processors of the processing system to convert the relative URL to an absolute URL.

68. A carrier medium according to claim 66, wherein, in the case that the retrieved first Web page includes one or more hyperlinks, the corresponding link is a "mailto" reference.

69. A carrier medium according to claim 66, wherein, in the case that the retrieved first Web page includes one or more hyperlinks, at least one hyperlink in the retrieved first Web page is left intact such that a user clicking on the intact hyperlink in an instance of an email browser of the first email environment would cause a Web browser to launch and the URL of the clicked hyperlink to be retrieved via the computer network.

70. A carrier medium according to claim 66, wherein, in the case that the retrieved Web page includes one or more form controls that have associated URLs, the code to effect transcoding includes computer readable code to effect one or more processors of the processing system to convert the form controls to mailto references, such that clicking on the form controls in an instance of an email browser of the first email environment would cause a further email message containing the form with any filled-in data to be sent to a third email address via the computer network.

71. A carrier medium according to claim 65, wherein the code to effect transcoding includes, in the case that the retrieved first Web page includes one or more image references, computer readable code to effect one or more processors of the processing system to retrieve the images of the image references and transmitting the retrieved images with the transcoded first Web page to the second email address.

72. A carrier medium according to claim 65, wherein the code to effect transcoding includes, in the case that the retrieved first Web page includes one or more image

references and that the images are stored in a cache, computer readable code to effect one or more processors of the processing system to retrieve the images from the cache.

73.   A carrier medium according to claim 71, wherein the retrieved images are transmitted as attachments to the second email message.

74.   A carrier medium according to claim 71, wherein the code to effect transcoding further includes computer readable code to effect one or more processors of the processing system to replace the image references with local image references.

75.   A carrier medium as described in claim 65, wherein the retrieving of the first Web page occurs according to a priority.

76.   A carrier medium as described in claim 65, wherein the third format includes one or more properties in accordance with the URL request or form data.

77.   A carrier medium as described in claim 65, wherein the first email message is formed by transcoding an original Web page, wherein the transcoding the original Web page includes introducing none or more form tags and metavariables, and wherein the code to effect interpreting includes computer readable code to effect one or more processors of the processing system to interpret any specialized form tags and variable (metavariables) introduced by any transcoding of the original Web page.

78.   A carrier medium as described in claim 65, wherein the code to effect interpreting includes computer readable code to effect one or more processors of the processing system to perform email-browser specific translating.

79.   An apparatus for operating one or more Web pages by email, the apparatus comprising the steps of:

•   means for sending a first Web page to a first email address via a computer network, the first Web page including one or more of links or forms that provide for further interaction, the Web page in a first format consistent with one or more properties of a first email environment such that the first

Web page is directly operable in an email browser of the first email environment; and

- means for retrieving a first email message sent to a second email address via the computer network, the second email message including a URL request or form data, and generated as a result of a user directly operating the first Web page in an instance of the email browser of the first email environment.

80. An apparatus for operating a Web server in communication with a computer network, the Web server to provide one or more Web pages, comprising:

- means coupled to the computer network for retrieving a first email message sent to a first email address via the computer network, the email message containing a URL request or form data;

- means coupled to the email retrieving means, for interpreting the retrieved first email message URL request or form data;

- means coupled the computer network for retrieving a first Web page from the Web server in accordance with the interpreted URL request or form data, the first Web page including one or more links or forms and in a Web browser format;

- means coupled to the Web page retrieving means, for transcoding the retrieved first Web page from the Web browser format to a third format consistent with one or more properties of a first email environment, such that the transcoded first Web page is directly operable in an instance of an email browser of the first email environment; and

- means coupled to the computer network and to the transcoding means, for transmitting the transcoded first Web page to a second email address.

81. An apparatus for operating a Web server in communication with a computer network, the Web server to provide one or more Web pages (these may be static or dynamic), comprising:

- an emailer coupled to the computer network to send a first Web page to a first email address via the computer network, the first Web page containing one or more links or forms that provide for further interaction and in a first format consistent with one or more properties of a first email environment such that the first Web page is directly operable in an email browser instance of the first email environment;

- an email retriever coupled to the computer network to retrieve a second email message including a URL request or form data;

- an email interpreter coupled to the email retriever to interpret the URL or form data in the second email message to generate a Web page request;

- a queue coupled to the email interpreter to queue the Web page request;

- a queue entry retriever coupled to the queue and to the computer network to retrieve the Web page request and to request the Web page according to the request; and

- a transcoder for receiving a requested Web page from the Web server via the computer network and for transcoding the received Web page from a second format to a third format consistent with one or more properties of a second email environment, such that the transcoded Web page is directly operable in an instance of an email browser of the second email environment.